

### **REMARKS/ARGUMENTS**

Applicant would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office action, and amended as necessary to more clearly and particularly describe the subject matter which applicant regards as the invention.

#### *Summary of Claim Amendments*

Claim 1 has been amended to incorporate limitations from claim 2 and to more precisely claim the heating element by adding additional limitations.

Claim 3 has been amended to place it in independent form by incorporating the limitations of claim 1.

Claims 4 and 5 have been amended for clarification.

Claims 8 and 9 have been canceled.

#### *Claim Objections*

Claims 1-8 were objected to because of informalities in claims 1 and 6. Appropriate correction has been made by amendment herein.

#### *Claim Rejections*

Claims 7 and 8 were rejected under 35 U.S.C. 101 for double patenting over claims of U.S. Patent No. 6,654,549 and for provisional double patenting over copending application 10/615,442. As mentioned above, claims 7 and 8 have been cancelled, thereby rendering the rejection moot.

Claims 1, 4/1 and 6/1 were rejected under 35 U.S.C. 103(a) over DE4438870 (hereinafter “the ‘870 reference”) in view of applicant’s admitted prior art (hereinafter “AAPA”). Claim 1 has been amended to substantially incorporate the limitations of claim 2, thereby rendering the rejection moot. A discussion of the amended claim 1 as it relates to the rejection originally applied to claim 2 is provided below.

Claim 5/1 was rejected under 35 U.S.C. 103(a) over the ‘870 reference in view of AAPA and in further view of U.S. Patent No. 4,319,125 to Prince (hereinafter “Prince”). As mentioned above, claim 1, from which claim 5/1 depends, has been amended to incorporate limitations of claim 2, thereby rendering the rejection moot. A discussion of the amended claim 1 as it relates to the rejection originally applied to claim 2 is provided below.

Claims 2, 4/2, and 6/2 were rejected under 35 U.S.C. 103(a) over the ‘870 reference in view of AAPA, and in further view of U.S. Patent No. 6,041,164 to Hofius, Sr. et al. (hereinafter “Hofius”). Claim 2 has been canceled by amendment herein, thereby rendering the rejection at least partially moot.

As mentioned above, limitations from claim 2 have been incorporated into claim 1 and claim 1 has been further amended to better distinguish from the cited prior art. To the extent that the above rejection of claims 2, 4/2, and 6/2 might be considered applicable to amended claim 1, and thus to claims 4/1, 5/1 and 6/1, the rejection has been overcome for the following reasons.

Regarding amended claim 1, neither the ‘870 reference, AAPA, the Hofius patent, nor any combination thereof teaches or suggests a heating element being “formed of a carbon-based substance *consisting at least of crystalized carbon, a resistance value adjustment substance and amorphous carbon,*” as required. The ‘870 describes a heating element formed of a plate material of carbon fiber. The ‘870 does not, however, disclose or suggest using the specific

combination of materials to form the heating element, as required by amended claim 1. AAPA describes a heating element comprising a carbon-based substance, but does not disclose the specific composition set forth in amended claim 1. The Hofius patent does not describe or suggest any particular composition for forming its wire heating element. Thus, since every limitation of the claim is not taught or suggested by any of the cited references or any combination thereof, amended claim 1 and its dependent claims 4/1, 5/1 and 6/1, are patentable over the prior art of record.

Further, regarding claim 1, the infrared radiant heating system of the Prince patent (cited in the rejection of claims 5/2 mentioned below) uses a cylindrical conduit that carries a heated fluid past a reflector, and therefore does not describe a heating element at all, much the specific shape and composition now required by claim 1. Thus, amended claim 1 would be patentable even if the Prince patent were combined with the other references.

Claims 3, 4/3 and 6/3 were rejected under 35 U.S.C. 103(a) over the '870 reference in view of AAPA and in further view of U.S. Patent No. 5,628,859 to Janin et al. (hereinafter "Janin"). As mentioned above, claim 3 has been amended to place it in independent form. For the following reasons, the rejection is respectfully traversed.

Regarding claim 3, neither the '870 reference, nor AAPA, nor the Janin patent nor any combination thereof, teaches or suggests that "*the reflection face of said reflection plate that opposes said heating element is disposed so as to be opposed to one of the narrower side portions of said heating element,*" as required. The Examiner acknowledges the deficiencies of the '870 reference and AAPA in this regard and states that this limitation is conventional and well known in the art. Janin is cited as evidence that providing a planar heating element with a narrower side opposed to a reflector. Applicant respectfully disagrees that such an arrangement

is conventional. Moreover, with reference to Fig. 6, the Janin patent discloses a configuration in which a radiating source in the form of a strip (3) is positioned in front of a reflectors (12) so that the *wider faces* of the strip (3) are opposed to the reflectors. Put another way, Fig. 6 of Janin shows a reflector (12) positioned *behind* a rectangular shaped radiating source. Applicant cannot see how this two-dimensional drawing teaches or reasonable suggests that the shown face of the strip is narrower than another face of the strip that is not shown or described. Therefore, since every limitation of the claim is not taught or suggested by the cited combination of references, claim 3 and its dependent claims 4/3 and 6/3 are patentable over the prior art of record.

Claims 5/2 and 5/3 were rejected under 35 U.S.C. 103(a) over the '870 reference in view of AAPA and Hofius and further in view of Prince. Claim 5/2 has been canceled by way of the cancelation of claim 2. Since claim 1 incorporates limitations of canceled claim 2, the Prince patent was addressed above with regard to the patentability of claim 1 and will not be further discussed. Further, for the following reasons, the rejection is respectfully traversed as applied to claim 5/3.

As explained above in detail, regarding claim 3, from which claim 5/3 depends, neither '870 nor AAPA nor Hofius teaches or suggests every limitation of the claim. Further, the Prince patent does not disclose the limitations related to the positioning of the heating element of which '870, AAPA and Hofius are deficient, since Prince describes an infrared heater using a heated fluid instead of a heating element. Therefore, even if Prince were combined with the other cited references, every limitation of the claim would not be taught or suggested by the resulting combination. Thus, claim 5/3 is patentable over the prior art of record.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the

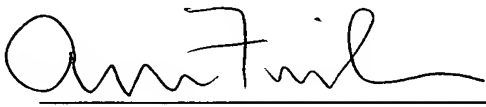
Appl. No. 10/643,218  
Amdt. Dated January 18, 2005  
Reply to Office action of October 15, 2004

application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 16-0820, our Order No. 33476US2.

Respectfully submitted,

PEARNE & GORDON LLP

By:   
Aaron A. Fishman, Reg. No. 44682

1801 East 9th Street  
Suite 1200  
Cleveland, Ohio 44114-3108  
(216) 579-1700

Date: January 18, 2005